Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	WT Docket No. 02-46
Report on Technical and	)	
Operational Wireless E911 Issues	)	

COMMENTS OF MOTOROLA, INC.

Motorola, Inc., ("Motorola") hereby submits its comments in response to the Public Notice released by the Wireless Telecommunications Bureau on October 16, 2002.[1] Motorola applauds the substantial effort made by Dale Hatfield in identifying the technical and operational issues that affect deployment of wireless Enhanced 911 (E911) services. Mr. Hatfield's *Report on Technical and Operational Issues Impacting The Provision of Wireless Enhanced 911 Services*[2] correctly recognizes the key problem areas in E911 deployment and provides the Commission with a thorough, expert perspective on many E911 issues. Motorola supports many of the recommendations in the Hatfield Report and especially urges the Commission to incorporate flexibility into the rules for the deployment of wireless E911 services. In addition, Motorola encourages the Commission to allow the industry to continue to develop and evaluate industry-accepted test and verification procedures for E911, while restraining from augmenting existing E911 regulations with new or enhanced requirements.

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[1] Public Notice, "Wireless Telecommunications Bureau Seeks Comment on Report on Technical and Operational Wireless E911 Issues," DA 02-2666, rel. Oct. 16, 2002.

[2] Dale N. Hatfield, *Report on Technical and Operational Issues Impacting The Provision of Wireless Enhanced 911 Services*, filed Oct. 15, 2002 ("the Hatfield Report").

I. THE COMMISSION SHOULD ENGAGE ALL STAKEHOLDERS INVOLVED IN WIRELESS E911 DEPLOYMENT

Motorola believes that the Hatfield Report provides a thorough overview of the wireless E911 implementation saga and challenges. In particular, the report correctly focuses on the complexity of the issues, the number of issues that remain unanswered and the significant obstacles to deployment such as the dispersal of critical responsibilities and PSAP "fatigue." Mr. Hatfield makes the valuable observation that incumbent Local Exchange Carriers ("ILECs") are an essential part of the provisioning of wireless E911 services. He identifies the concern that rollout of wireless E911 services could be slowed by the lack of ILEC's readiness. Motorola agrees that there should be an "increased emphasis on the actions that need to be taken by the ILEC to support the rollout of wireless E911 systems and services on a timely basis."[3]

II. MOTOROLA SUPPORTS OVERSIGHT OF ALL E911 STAKEHOLDERS

Motorola also supports the Hatfield Report's recommendation for strong oversight of the E-911 implementation process and its recognition of the complexity of the task. The complexity of the situation and the large number of stakeholders requires "an unusually high degree of coordination and cooperation among public and private entities."[4] As Motorola has stated to the Commission throughout the development of E911 policies, provision of location information is an extraordinarily complex task that is not deployed simply with the rollout of network software up-grades or with phones with advanced capabilities. As such, it is crucial that all stakeholders be accountable and responsible for efforts to ensure that E911 requirements are met. The Commission has consistently required equipment manufacturers and wireless carriers to meet incredibly difficult timelines and accuracy benchmarks that were selected before there was any

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[3] The Hatfield Report, p.33.

[4] The Hatfield Report, p. 21.

actual experience with real world implementation. In response to industry suggestions, the Commission finally has begun to engage the other stakeholders such as the local exchange carriers, third party integrators and public safety entities in meaningful dialogue. Motorola encourages the Commission to continue this outreach and to develop a meaningful oversight plan for the other stakeholders in the E911 process.

III. COMMISSION FLEXIBILITY IS CRUCIAL TO PROGRESS IN E911 IMPLEMENTATION

Mr. Hatfield "agree[s] with the notion that additional flexibility – rather than rigid rules – may, in some cases at least, actually facilitate the rollout of wireless E911 services."[5] The Hatfield Report contains several feasible and useful suggestions for how the Commission can make its regulations more flexible. As Motorola and other equipment manufacturers have continually stated to the Commission, rigid enforcement of the overly optimistic timing benchmarks and accuracy requirements has inhibited the deployment of E911. Motorola is encouraged that the Hatfield Report recognizes that flexibility in the development of E911 requirements will greatly enable the implementation process and strongly urges the Commission to embrace flexibility in its overview of the E911 rollout. Such flexibility will provide all stakeholders with the ability to achieve the Commission's goals of providing location services to the American public.

IV. MOTOROLA IS CONCERNED ABOUT COMMISSION INTERVENTION IN TESTING AND VERIFICATION PROCEDURES

As a manufacturer of several different models of handsets using both handset-based and hybrid technologies, Motorola continues to be concerned about testing standards for E911 accuracy requirements. While the location technologies used are those suggested by the

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[5] The Hatfield Report, p. 45.

Commission, the actual performance capabilities and characteristics of those technologies are just now beginning to be seen and understood in real-world operation. As Mr. Hatfield suggests, flexibility and realistic expectations must inform all decisions concerning compliance standards in this initial stage. A single "industry-wide testing and certification (and re-certification) program"[6] may be difficult to achieve given the various technologies for obtaining Automatic Location Identification ("ALI"). Instead, the Commission should allow the industry to devise common technology test plans, potentially tied to particular air interfaces or local solutions, because the industry is best positioned to develop such requirements. In OET-71,[7] the Commission recommended that the industry work together to develop a description of processes to demonstrate accuracy. Accordingly, Motorola and other manufacturers have been working toward a standardized procedure for testing and certification of new wireless model handsets through OMA ("Open Mobile Alliance"). The Commission should support the results of this collaborative effort, and those results should be used as a safe harbor for that accuracy verification which lies in the handset.

Additionally, Motorola believes the Commission can aid this process by clearly stating that approaches such as geographic averaging and use of a system "test-bed" are acceptable for demonstrating compliance with FCC requirements. The industry could assess whether and how such approaches could be standardized and utilized for compliance with Commission requirements. Tests for E911 location accuracy should take place where the conditions are realistic and reflect how the selected technology is capable of working. The location accuracy requirements need to incorporate the flexibility to recognize the limitations of the technology,

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6 The Hatfield Report, p. 36.

7 OET Bulletin No. 71, *Guidelines for Testing and Verifying the Accuracy of Wireless E911 Location Systems*, Federal Communications Commission, April 12, 2000.

especially given the expanse and complexity of the network elements involved in providing E911 location information.[8] Thus, the testing process should be an interactive, cooperative process, through which carriers and manufacturers are encouraged to identify areas of potential improvement for their solutions and technology over time as new capabilities are developed. Finally, as the Hatfield Report notes, it is important that the FCC recognize and approve the use of "geographic averaging" as a compliant method for demonstrating that equipment deployed meets Commission E911 requirements. In particular, entities should be permitted the flexibility to average location measurements over any geographic area where they are providing seamless coverage. Any other approach would be inconsistent with the system integration strategy used by wireless carriers and manufacturers, which is essential to provide the consistent nationwide operability demanded by users and sought by the Commission.

The test-bed approach, in which the testing areas are small, defined areas that provide known environmental and geographic characteristics, is often preferable to testing over a number of areas where characteristics are unknown, because it speeds up the testing process and allows for meaningful testing of the performance of the equipment and systems themselves. This allows manufacturers and carriers to test and qualify equipment before making it commercially available, and even, if needed, before deployment of the relevant E911 system. For the same reason, the test bed approach is also more efficient and less subject to change. Finally, the test bed approach provides the best means to assess and to improve the technology.

[8] For example, as Motorola has previously commented in this proceeding, GPS is a technology solution endorsed by the FCC in the *Third Report and Order*, but for in-building and urban canyon uses, where obstructions limit the number of GPS satellites viewable from the handset, GPS capabilities are diminished.

V. THE COMMISSION SHOULD AVOID ANY NEW OR ENHANCED E911 REQUIREMENTS AT THIS CRUCIAL STAGE OF DEPLOYMENT

In addition, the Hatfield Report recommends that the Commission avoid the addition of new requirements during this critical stage of E911 rollout.[9] Motorola strongly agrees. The E911 docket, CC Docket 94-102, has over 4000 different filings and pleadings associated with it at this point. Motorola and other equipment manufacturers, who have been working diligently since 1994 to deploy wireless E911, have been handicapped in this effort as the Commission has extensively modified the E911 requirements on an iterative basis (often prior to any actual experience with real-world performance) and has added new requirements that have caused substantial delays. Therefore, Motorola believes that the Commission should focus on the hierarchy of steps required for proper implementation of E911 service. For example, the FCC must ensure that the basic technologies (such as voice calls from typical locations) function properly before focusing on new technologies. Until the basic E911 infrastructure is established, implementation of new features and capabilities for E911 cannot be supported.

VI. EDUCATION IS CRITICAL FOR SUCCESSFUL E911 DEVELOPMENT

Lastly, Mr. Hatfield suggests that all parties should undertake to educate one another and the general public about E911 location capabilities and limitations. Motorola agrees with this. It is essential that PSAPs understand how the different technologies approach location determination and how to maximize the effectiveness of each approach. It is also important that wireless phone users understand the functions, capabilities and limitations of E911 location technology for their product and network so that they can make informed decisions and maximize location performance.

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[9] The Hatfield Report at p. 40.

CONCLUSION

For the reasons set forth above, Motorola believes that the Hatfield Report provides an important viewpoint on the complex deployment of wireless E911. Motorola urges the Commission to study the findings and recommendations in the Hatfield Report and use them to revise its E911 regulations.

Respectfully submitted,

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